

TODO®

A Gardner Denver Product

TODO-MATIC®



Service instruction

Hose unit 4"

Solid piston

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Required tools

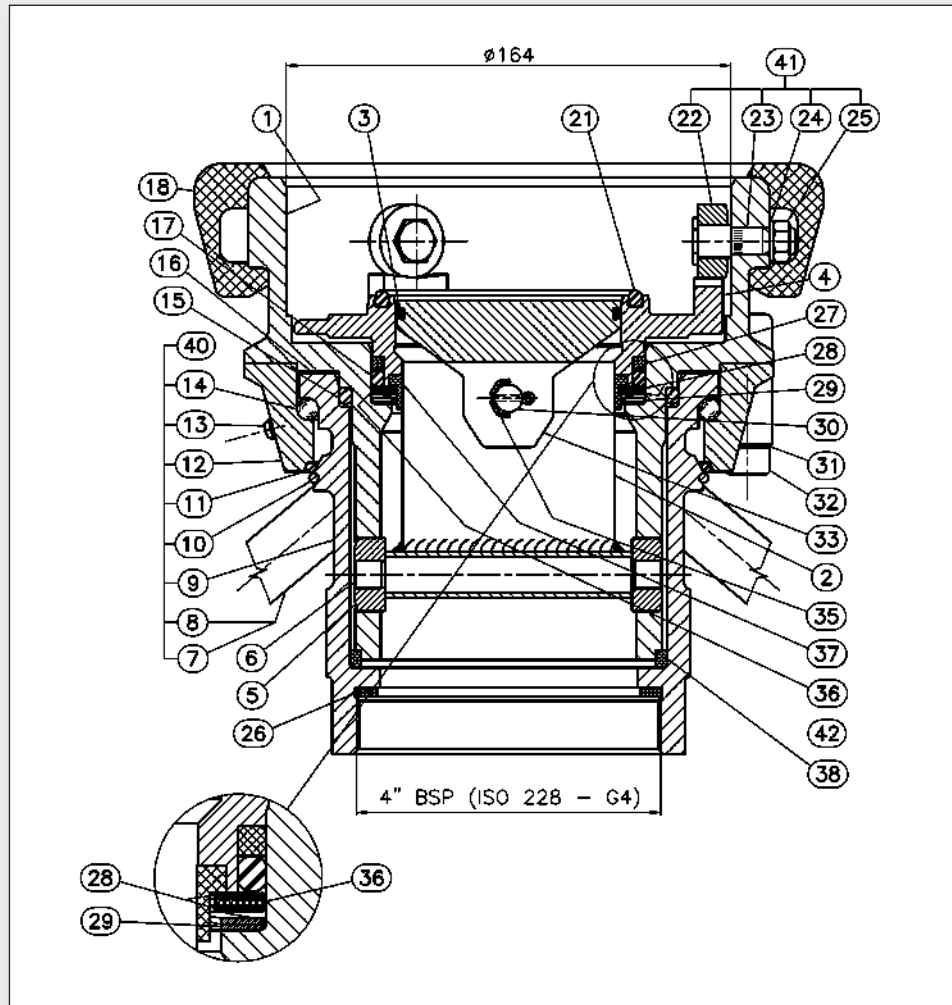
4 mm Allen key	Torque wrench key set
8 mm Allen key	A/D (Assembly/Disassembly) tool (TODO) 5954
Plastic / rubber hammer	Ball assembly tool (TODO)
10 mm socket wrench key	Grease gun
O-ring tool (TODO) 6640	13 mm socket wrench key
7 mm cap key	

Lubricants

See separate lubrication instructions, please download at www.todo.se

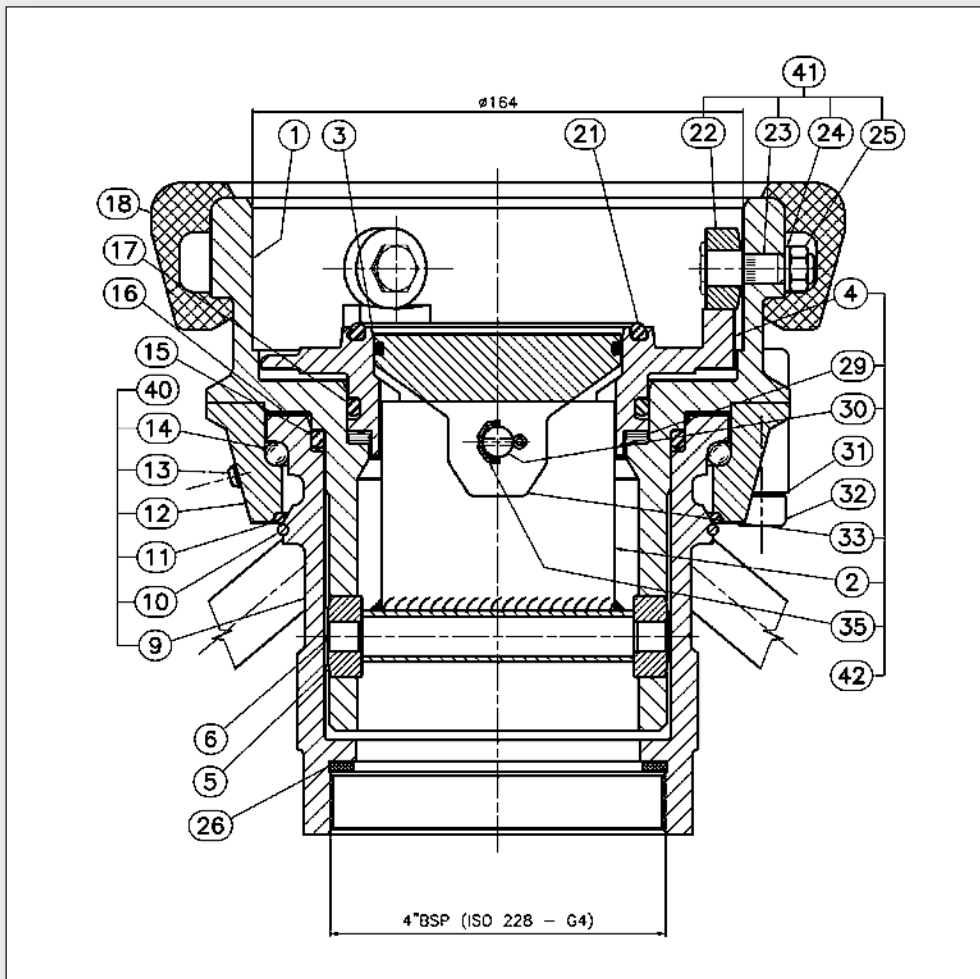


4" hose unit (Stainless Steel)



- | | | |
|---------------------------|---------------------|-------------------------|
| 1. Coupling body | 18. Protective ring | 36. Flat seal |
| 2. Piston guide | 21. O-ring | 37. Bushing |
| 3. O-ring | 22. Roller | 38. Teflon ring |
| 4. Driving plate | 23. Shaft | 40. Swivel complete |
| 5. Roller | 24. Spring washer | 41. Roller complete |
| 6. Piston spindle | 25. Locking nut | 42. Inner part complete |
| 9. Swivel sleeve | 26. Flat seal | |
| 10. Wire coil | 27. Bushing | |
| 11. O-ring | 28. Washer | |
| 12. Ballrace with handles | 29. Wavy washer | |
| 13. Screw | 30. Pin | |
| 14. Ball | 31. Spring washer | |
| 15. O-ring | 32. Bolt | |
| 16. Flat seal | 33. Piston head | |
| 17. O-ring | 35. Split cotter | |

4" hose unit (Aluminium, Gunmetal)



- | | | |
|---|---------------------|-------------------------|
| 1. Coupling body | 18. Protective ring | 42. Inner part complete |
| 2. Piston guide | 21. O-ring | |
| 3. O-ring | 22. Roller | |
| 4. Driving plate | 23. Shaft | |
| 5. Roller | 24. Spring washer | |
| 6. Piston spindle | 25. Locking nut | |
| 9. Swivel sleeve | 26. Flat seal | |
| 10. Wire coil | 29. Wavy washer | |
| 11. O-ring | 30. Pin | |
| 12. Ballrace with handles | 31. Spring washer | |
| 13. Lubricator | 32. Bolt | |
| 14. Ball | 33. Piston | |
| 15. O-ring | 35. Split cotter | |
| 16. Wavy washer (Alu.), Flat seal (Gm.) | 40. Swivel complete | |
| 17. O-ring | 41. Roller complete | |

Dismantling and assembly procedure Step 1-3

Always make sure the coupling is decontaminated and that you work in a clean environment. Clean the parts with a cloth and a proper solvent.

1.

Turn the coupling as shown in the picture. Use the disassembly tool. Release the coupling by turning it clockwise.



2.

Loosen the bolts of the ball race.



3.

Turn the swivel a little so that you are able to pull the pieces apart.



Dismantling and assembly procedure Step 4-6

4.

Begin the dismantling of the swivel by carefully bending out and lifting off the wire coil. Be sure not to scratch the surfaces of the swivel body. Then remove the o-ring.

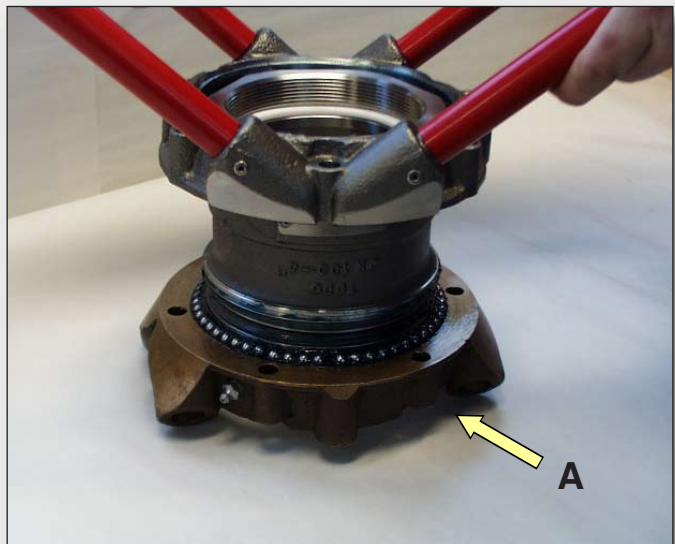


5.

Use the Todo special tool (A) and lift off the ball race, taking special care not to lose any balls. Thoroughly clean all dismantled parts and look for damage on the balls, ball race or the threads in the top of the swivel.

Change the flat sealing in the threaded part.

Change the flat sealing in the threaded part.



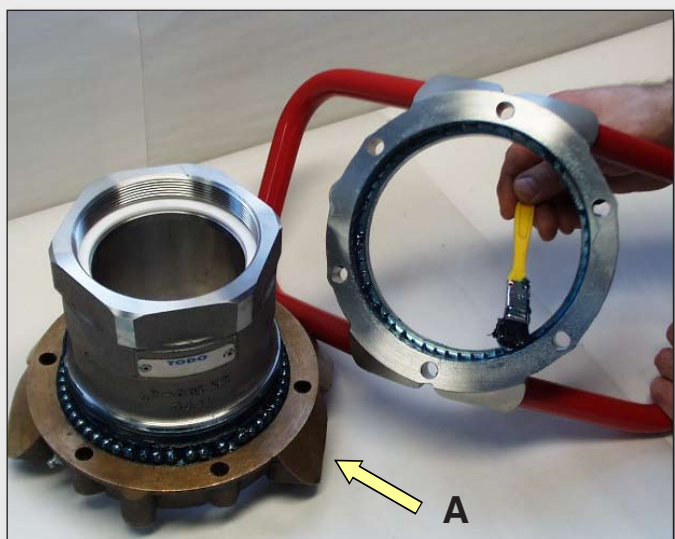
6.

Use the Todo special tool (A) to position and assemble the balls.

Put grease in the ball race.

Use the prescribed grease for this coupling application.

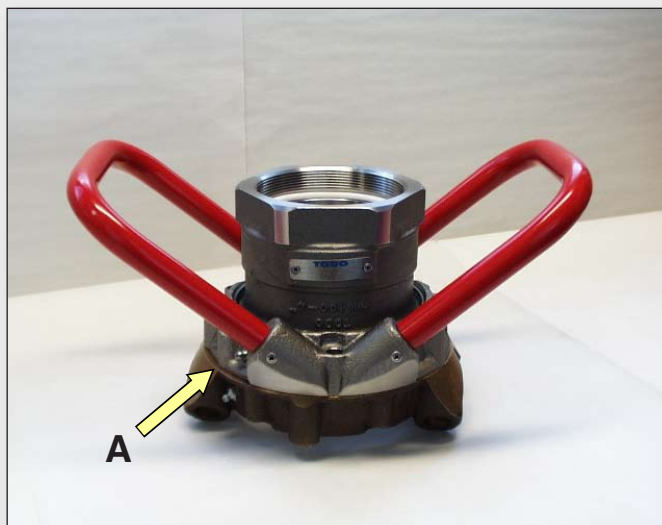
See separate lubrication instruction.



Dismantling and assembly procedure Step 7-9

7.

Check the function of the lubricator (A) by pressing in a small quantity of grease using a grease gun. Put the ball race back.



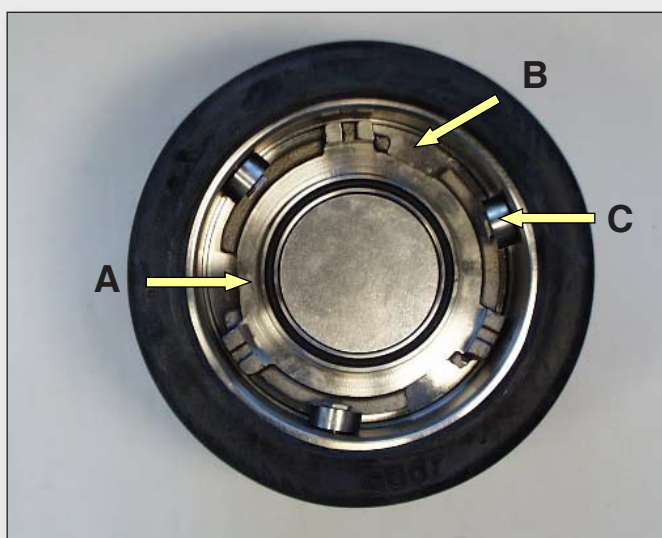
8.

Replace the old o-ring with a new one and put the wire coil back in its position to keep the o-ring in place.



9.

Turn the driving plate (A) until the slot (B) is positioned beneath the roller (C). Turn the coupling upside down and take the two rollers off the piston spindle. Then remove the piston spindle. Press the driving unit out.



Dismantling and assembly procedure Step 10-12

10.

Remove the o-rings, the teflon bushings, disc and protective ring.
Dismount the rollers in the coupling body. After removing the nuts, carefully remove the shafts using a plastic hammer or similar.



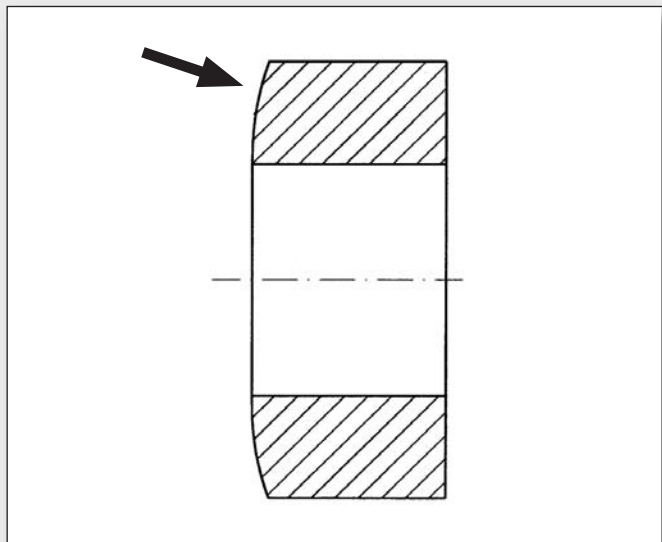
11.

Assemble new rollers in the body. Observe that the curved surface on the roller must be faced against the inner radius of the body! Check the status of the bushings in the body (the rollers must run free).

Replace locking nuts with new ones.
Use a torque wrench key.

Force: 10 Nm.

Put back the protective ring.



12.

Remove the locking clip.



Dismantling and assembly procedure Step 13

13 a.

Stainless Steel hose unit.

Replace the teflon bushing.

Lubricate the new o-ring.

See separate lubrication instructions.

Replace the o-ring. Spin the o-ring one turn to make sure it's not twisted, as that could cause leakage.



Replace the teflon bars.



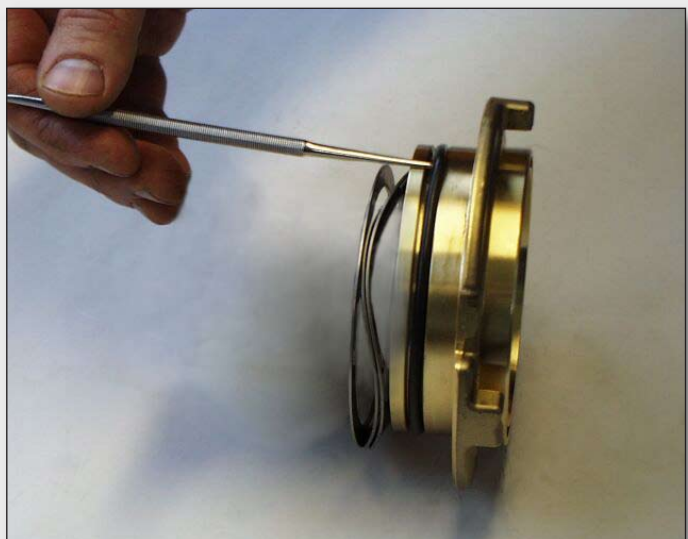
13 b.

Aluminium/Gunmetal hose unit.

Lubricate the new o-ring.

See separate lubrication instructions.

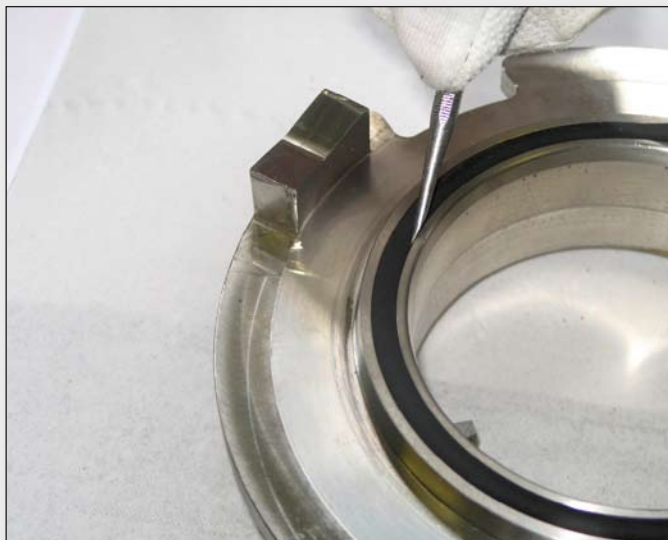
Replace the o-ring by using the special o-ring tool. Rotate it one more turn to be sure it's not twisted, as that could cause leakage.



Dismantling and assembly procedure Step 14-16

14.

Remove the o-ring from the top of the driving unit.



15.

Lubricate the new o-ring.
See separate lubrication instructions.

Mount the new o-ring in the top of the driving unit by pressing it down cross-wise in its groove. Make sure that there are no remaining buckles.



16.

Lubricate the driving plate.
See separate lubrication instructions.



Dismantling and assembly procedure Step 17-19

17.

Remove the old o-ring using an o-ring tool.



18.

Lubricate the new o-ring, according to the separate lubrication instructions.

Mount the new o-ring.

Rotate it one more turn to make sure there are no remaining buckles.



19.

Mount the o-ring by pressing it down crosswise in its groove.

Make sure that there are no remaining buckles.



Dismantling and assembly procedure 20-21

20.

Stainless steel version

Replace the teflon flat seal (A).

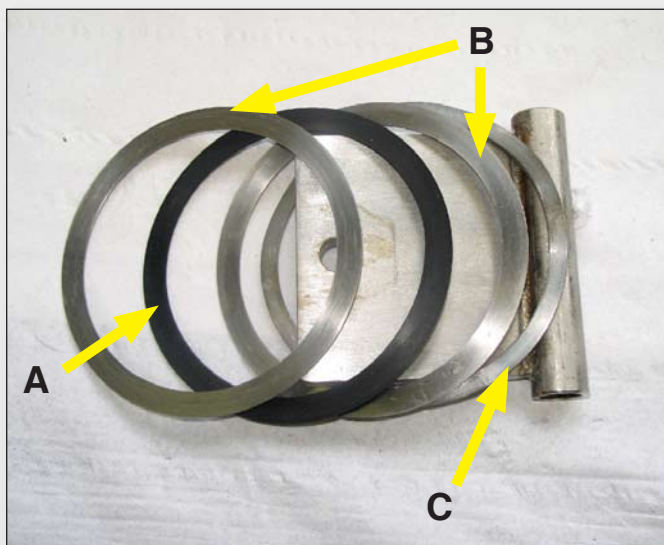
Replace other parts if necessary.

Assemble the parts according to picture.

A - teflon flat seal, B - washer

C - wavy washer.

Assemble piston and piston guide, see picture 12

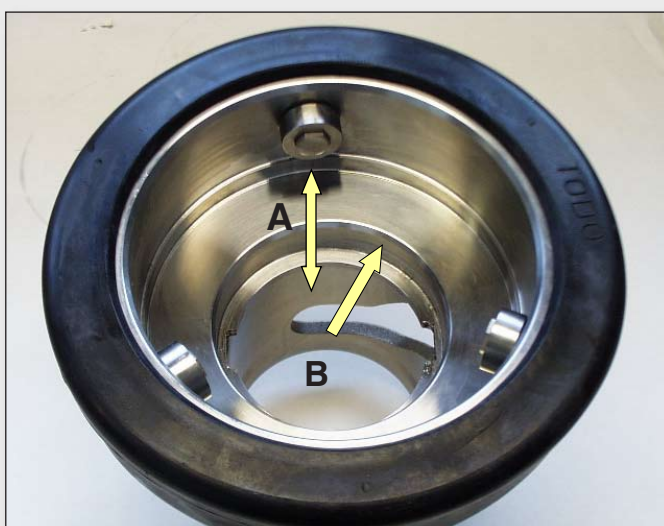


21.

Put the protective ring back on the body. Put ordinated grease on the sealing surface (B).

See separate lubrication instructions.

Make sure that one roller is aligned with the end of the camcurve (A).

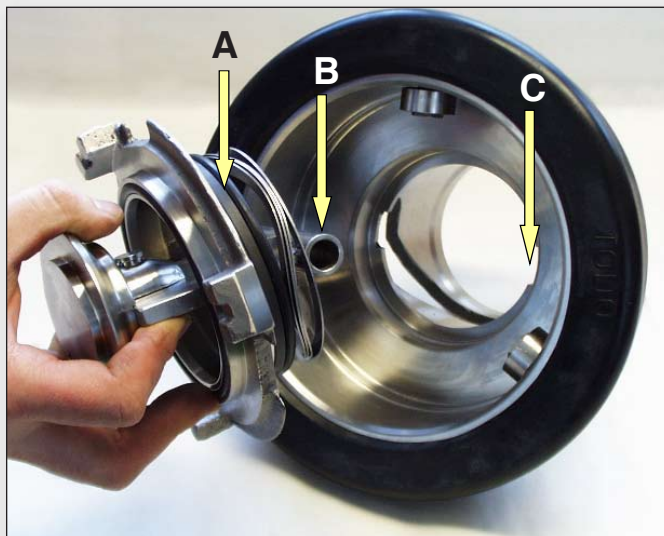


Dismantling and assembly procedure Step 22-24

22.

(A) and (B) are fitted in to slot (C) with the coupling positioned as in the previous picture.

Make sure that the pack of washers are kept together and well centered before positioning the driving unit into the body.



23.

If the washers are centered correctly the driving unit is now resting on the rollers. Turn the driving unit clockwise until the slots are positioned beneath the rollers.

Then the driving unit will fall down in its correct position.



24.

Turn the driving unit anti-clockwise until the rollers (A) meet the seats (B).



Dismantling and assembly procedure Step 25-27

25.

Mount the piston spindle.

Lubricate the spindle ends with recommended oil.

Be sure that the curved surfaces of the rollers are directed outwards!



26.

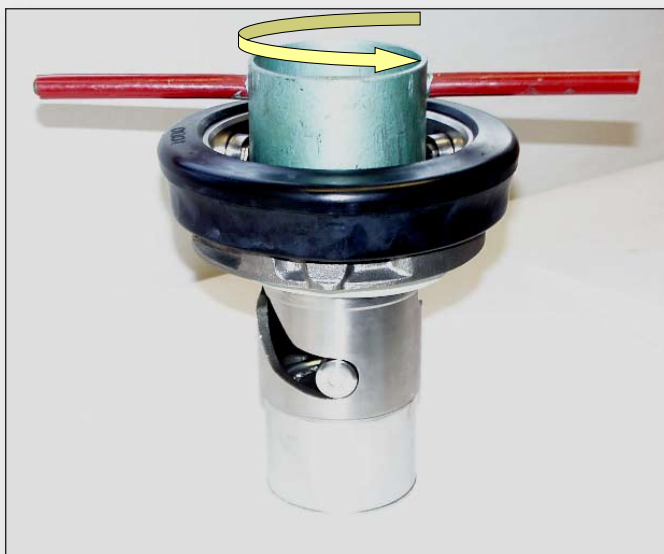
Use the assembly tool.

Make sure that the rollers are still in their correct position.



27.

Turn the tool anti-clockwise until the rollers reach the end position of the camcurve, as shown in the picture.



Dismantling and assembly procedure Step 28-30

28.

Replace the teflon disc (SS and Gm), or wavy washer (Alu), with a new one.
Replace the o-ring by using the special o-ring tool.
Spin the o-ring round one turn to make sure it's not twisted.



29.

Use recommended grease to lubricate the swivel body's sealing surface in an area that reaches approx. 30 mm into the body.



30.

Press the swivel onto the body using care and a firm hand.



Dismantling and assembly procedure 31-33

31.

Tighten the bolts crosswise with a torque wrench key.

Force: 30 Nm.



32.

Lubricate the ball race with recommended grease by using a lubrication gun.



33.

After completed assembly, make sure that the coupling works satisfactorily and without leaking.

TODO recommends that the hose unit be tested as follows: Pressurize the hose unit with air, 2 bar, under water.

No bubbles should be visible from the piston seal. Finally, carry out a function test. Couple and uncouple with a tank unit several times, ensuring a smooth connection.

